



Environmental Stewardship Initiative

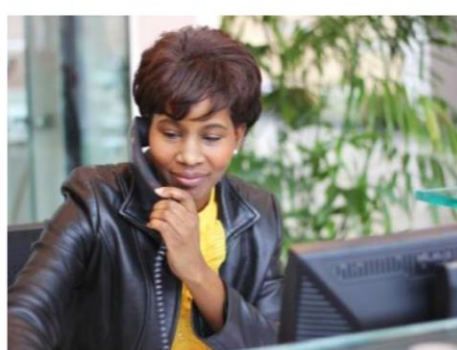
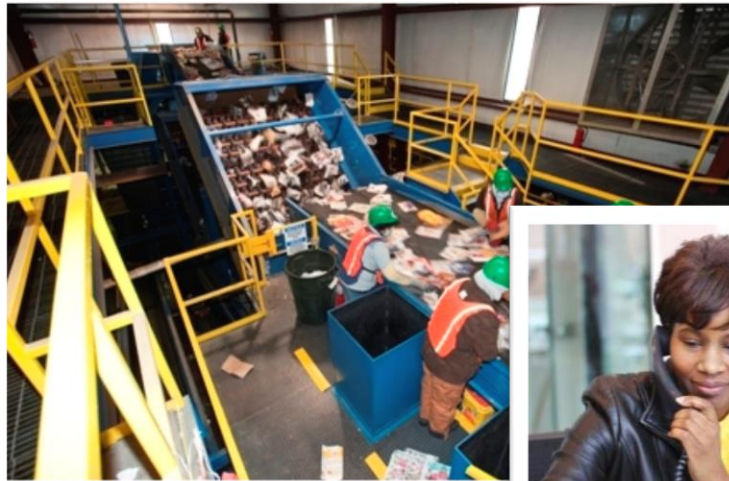
TOOLS FOR ENVIRONMENTAL SUCCESS WORKSHOP

MAY 22, 2018



Division of Environmental Assistance and Customer Service

- Non regulatory
- No cost-permit; compliance technical assistance
- Engineers, chemists, environmental specialists





Environmental Stewardship Initiative

- DEQ **recognition** program for superior environmental performance
- DEACS staff serve as coach to member and manage program
- **Voluntary** and **free**
- Funded through EPA Pollution Prevention Grant





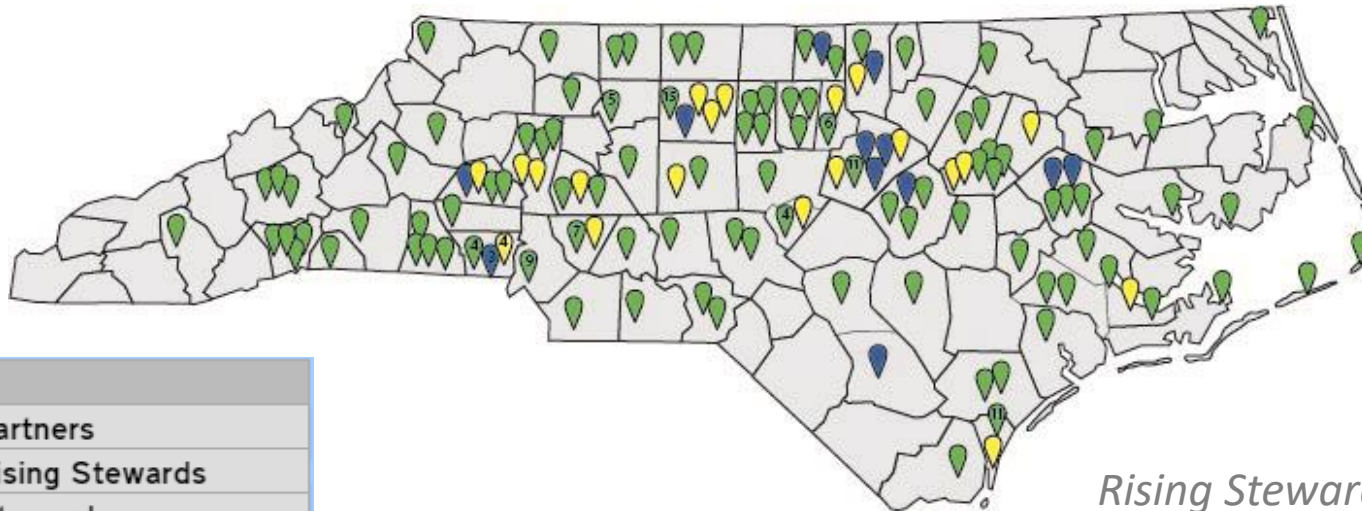
Environmental Stewardship Initiative

2002

- 1 Steward
- 27 Partners

2018

- 29 Steward
- 11 Rising Steward
- 57 Partners; 162 sites



Legend

- | | |
|-------------------------------------|-----------------|
| <input checked="" type="checkbox"/> | Partners |
| <input checked="" type="checkbox"/> | Rising Stewards |
| <input checked="" type="checkbox"/> | Stewards |

Rising Steward level added in 2004



To Join ESI

- Commitment to compliance
- Not under environmental criminal indictment or conviction
- Report annually on progress towards environmental performance goals and any reportable non-compliance





Partners

*Denotes multi-site Partner

- Alliance One International Inc. (4)*
- American Emergency Vehicles - Jefferson
- American Snuff Company / Taylor Brothers – Winston-Salem
- AW North Carolina - Durham
- Baker Interiors Furniture Company – Hildebran
- Baker Furniture Company – High Point
- BorgWarner Thermal Systems – Fletcher
- BorgWarner Turbo Systems – Arden
- Burt's Bees Inc. – Morrisville
- Cape Fear Public Utility Authority – Wilmington (9)*
- Cascades Tissue Group – North Carolina Inc. – Rockingham
- Caterpillar BCP – Clayton
- Caterpillar BCP – Sanford
- Charlotte Mecklenburg Schools
- City of Gastonia Public Works Division
- City of Hendersonville Water Treatment Plant
- City of Shelby First Broad River Wastewater Treatment Plant
- City of Shelby Water Plant
- CMI Plastics – Ayden
- CommScope – Greensboro
- Core Technology Molding Corporation – Greensboro
- Crown Equipment – Kinston
- Domtar Paper Company, LLC – Plymouth
- Eaton Corporation CPO – Raleigh
- Freudenburg Performance Materials LP – Durham
- General Electric Aviation Durham Engine Facility
- General Electric – Mebane
- HAECO Airframe Services – Greensboro
- Herbalife Innovation and Manufacturing – Winston Salem
- High Point Furniture Industries (2)*
- International Paper – Riegelwood Mill
- Iredell Fiber, Div. of Leggett & Platt – Statesville
- Kao Specialties Americas, LLC – High Point
- Liberty Tire Recycling, LLC (2)*
- Linamar Corporation – Arden
- Martin Marietta (58)*
- Michelin Aircraft Tire Co. – Norwood
- MVP Group International – Elkin
- Mylan Pharmaceutical – Greensboro
- NIEHS – RTP
- N.C. DOT Ferry Division (9)*
- North State Communications – High Point
- Pfizer – Sanford
- Piedmont Service Group – Raleigh Office
- PRC Industries – Spruce Pine
- PSNC Energy Carolinas Inc. (21)*
- RJ Reynolds Tobacco Company (3)*
- SELEE Corporation – Hendersonville
- Siemens Medical Solutions, USA, Inc. – HC NAM USA SV National Service Headquarters – Cary
- Smithfield Clinton Plant
- Southern Research Institute – Energy & Environment - Durham
- Universal Leaf North America U.S., Inc. (2)*
- Water and Sewer Authority of Cabarrus Co. (4)*



Rising Stewards

- Ajinomoto North America, Inc. – Raleigh
- ASMO Greenville of North America Inc.
- Bridgestone-Bandag, LLC – Oxford
- City of Gastonia Resource Recovery Farm
- Eaton Corporation, Raleigh Production Operations
- GKN Driveline – Roxboro Assembly
- GKN Sinter Metals – Conover
- Hyster-Yale Group – Greenville
- Mecklenburg Co. Solid Waste Operations
- QORVO, Inc – Greensboro
- Smithfield Farmland – Tar Heel Facility



Stewards

- ASMO North Carolina Inc. – Statesville
- Bridgestone Americas Tire Operations LLC – Wilson
- City of Gastonia Crowders Creek Water Resources Reclamation Facility
- City of Gastonia Long Creek Water Resources Reclamation Facility
- City of Gastonia Water Plant
- Corning Inc. – Wilmington Optical Fiber
- Daimler Trucks North America LLC – Cleveland
- Daimler Trucks North America LLC – Gastonia
- Daimler Trucks North America LLC – Mt. Holly
- Dell – Apex
- Eaton Corporation, Youngsville Plant Operations
- Engineered Sintered Components – Troutman
- Firestone Fibers & Textiles – Kings Mountain & Gastonia
- Fleet Readiness Center East – Cherry Point
- GKN Driveline – Sanford Precision Forming Facility
- Grifols Therapeutics – Clayton
- Hickory Manufacturing and Technology Center, Corning Optical Communications
- John Deere Turf Care – Fuquay-Varina
- Keihin Carolina System Technology, LLC – Tarboro
- Leggett & Platt ON64 – High Point
- N.C. Zoological Park – Asheboro
- Santa Fe Natural Tobacco – Oxford
- Smithfield Wilson
- Stanley Black & Decker – Kannapolis DC
- TE Connectivity – Burgess Rd – Greensboro
- TE Connectivity – Pegg Rd – Greensboro
- Thomas Built Buses, Inc. – High Point
- Uchiyama Manufacturing America LLC – Goldsboro
- U.S. Environmental Protection Agency – RTP



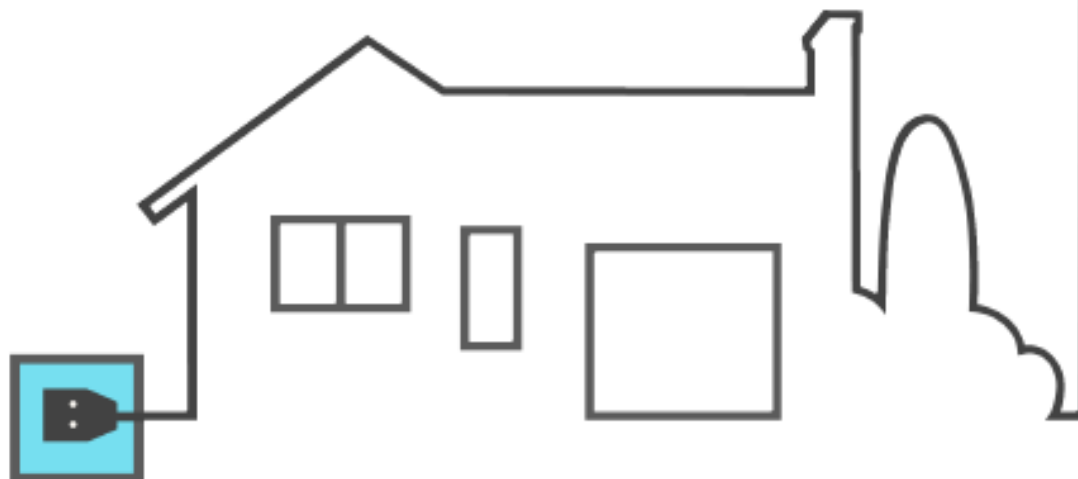
| 2016 ESI Members Reported Reductions | | | |
|--|---------------------------|-----------------|------------------|
| | Area | 2016 | Unit |
| Reductions | Air Emissions | 2,973 | Tons |
| | Greenhouse Gas Emissions* | 3,562 | Metric Tons CO2e |
| | Hazardous Waste | 314 | Tons |
| | Landfilled Waste | 2,535 | Tons |
| | Energy | 291,695 | mmBtu |
| | Water Use | 1,239,254,545 | Gallons |
| | Material Consumption | 376 | Tons |
| | Wastewater Pollutants | 806 | Tons |
| | Wastewater Volume | 230,263,919 | Gallons |
| Totals | Biomass Recovery** | 93,888 | Tons |
| | Total Recycled Volume | 159,194 | Tons |
| | Total Cost Savings | \$ 8,221,014.67 | |
| *Indirect not reported in energy reductions | | | |
| **Category created for compost/mulch related goals | | | |



ESI members saved enough
energy in 2016 to power over

3,800

average North Carolina
homes for a year





ESI members saved enough
water in 2016 to fill more than

56,000

average-sized swimming pools





In 2016 ESI members reduced
greenhouse gas emissions
equivalent to over

6,470

passenger vehicles driven for
one year!



ESI members saved enough
money on environmental projects
in 2016 to pay the salary of

274

PEOPLE

earning \$30,000 per year



ESI Benefits and Services

- Technical Assistance
- Networking
- Recognition
- Electronic Newsletter
- DEACS Coach
- Trainings
- EMS Assistance
- Steward Forum
- ESI Listserv





ESI Activities

- Personalized onsite EMS assistance
- Internal Auditing Assistance
- EMS Gap Analysis
- Networking:
 - Annual ESI Conference
 - At ESI facilities
 - Facility tours
 - Networking with ESI members & DEQ
 - Topic based/facility lead
 - Energy
 - Solid waste reduction
 - EMS
- Training
 - ISO 14001 –
 - EMS Implementation Series (7 Modules)
 - EMS Internal Auditing
 - ISO 14001:2004 to 2015 Conversion
 - Managers' Overview of ISO 14001:2015
 - Lean and Green
 - Zero Waste to Landfill 101
 - Developing SMART Environmental Goals



Upcoming Events

- *EMS Development
7-Module Series*

July-December – Raleigh

- *EMS Internal Auditing*

June 26 – Concord



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Department of Environmental Quality

Division of Environmental Assistance and Customer Service



Environmental Management Systems and ISO 14001

EMS 101





What is an EMS?

Emergency Medical Service

Emergency Management Services

Express Mail Service

Electromagnetic Spectrum

Ethyl Methane Sulfonate

Electronic Mail Service

Excess Mileage Surcharge

European Monetary System

Earth and Mineral Sciences

NO

Well, yes, but
not today!



Environmental Management System

A proven tool that is specifically designed to help any organization manage its activities and allow successful pursuit of that organization's environmental policies and goals.



What does an EMS do?

Provides a systematic way of managing an organization's environmental affairs

Ensures environmental considerations are a priority

Gives order and consistency for organizations to address environmental concerns through:

- allocation of resources,
- assignment of responsibility
- ongoing evaluation of practices, procedures and processes

Focuses on continual improvement of the system



Why Implement an EMS?

Helps to focus organization's priorities and avoid "flavor of the month syndrome"

Helps to prioritize and keep sustainability goals from competing with each other for resources and attention

Establish a framework to move beyond compliance

Vehicle for positive change; improved employee morale, enhanced public image

Helps to identify the root causes of environmental problems



What is ISO?

"ISO" is a word, derived from the Greek isos, meaning "equal."

ISO an acronym - International Organization for Standardization



www.iso.org



What is ISO 14001?

Developed by an NGO representing over 100 countries

ANSI is the US representative

Widely adopted

Some customers demand implementation, some even require certification

Auditable

Compatible and easily integrated with other ISO standards (ISO 9000, ISO 50000, etc.)



What ISO 14001 is NOT !

NOT Focused strictly on regulatory compliance
(regulatory is 1 of 3 focuses)

NOT A process wherein you immediately address
every single potential environmental impact

NOT A performance standard

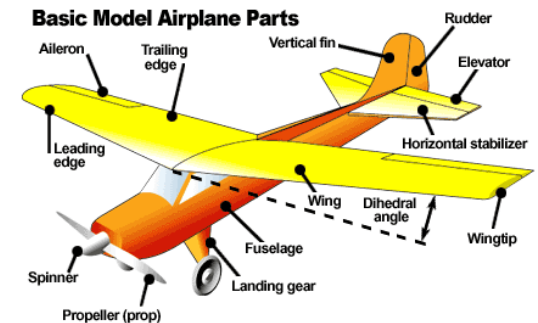
NOT An occupational health and safety standard



ISO 14001 is a Model

OTHER EMS MODELS

- E FEC by American Home Furnishings Alliance
- Responsible Care by American Chemistry Council (most chemical companies use RC-14001)
- Company Specific – ex. John Deere
- Others?





List reasons for getting registered



1. _____

2. _____

3. _____

4. _____

5. _____



Does an EMS have to be certified?

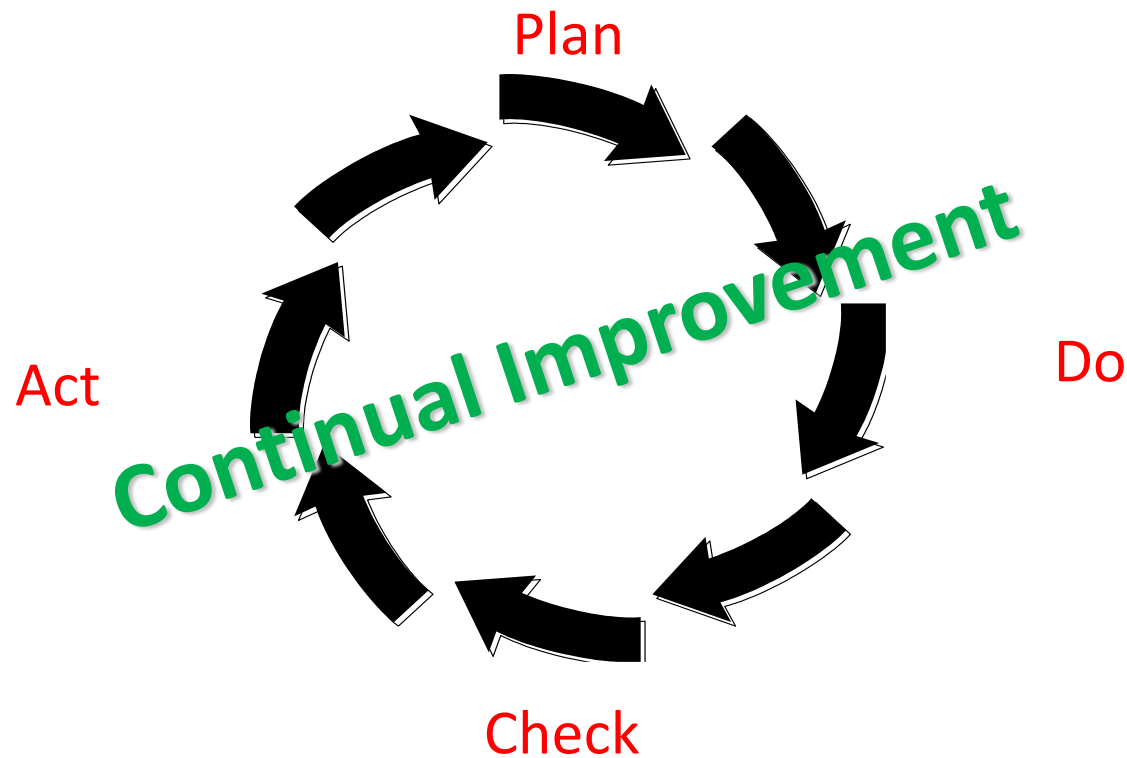
Unless you are required by a mandate, NO

3rd party certification is:

- A way to ensure your EMS isn't forgotten about
- A confidential outside set of eyes to assist with systemic improvements



P-D-C-A Model of Continual Improvement





Elements of ISO 14001:2015

6 Planning

6.1 Actions to address risks and opportunities

- 6.1.1 General
- 6.1.2 Environmental aspects
- 6.1.3 Compliance obligations
- 6.1.4 Planning action

6.2 Environmental objectives and planning to achieve them

- 6.2.1 Environmental objectives
- 6.2.2 Planning actions to achieve environmental objectives

Plan

5 Leadership

- 5.1 Leadership and commitment
- 5.2 Environmental policy
- 5.3 Organizational roles, responsibilities and authorities

7 Support

- 7.1 Resources
- 7.2 Competence
- 7.3 Awareness
- 7.4 Communication
 - 7.4.1 General
 - 7.4.2 Internal communication
 - 7.4.3 External communication
- 7.5 Documented information
 - 7.5.1 General
 - 7.5.2 Creating and updating
 - 7.5.3 Control of documented information

Do

10 Improvement

- 10.1 General
- 10.2 Nonconformity and corrective action
- 10.3 Continual improvement

Act

Continual
Improvement

9 Performance evaluation

- 9.1 Monitoring, measurement, analysis and evaluation
 - 9.1.1 General
 - 9.1.2 Evaluation of compliance
- 9.2 Internal audit
 - 9.2.1 General
 - 9.2.2 Internal audit program
- 9.3 Management review

Check

4 Context of Organization

- 4.1 Understanding the organization and its context
- 4.2 Understanding the needs & expectations of interested parties
- 4.3 Determining the scope of the EMS
- 4.4 Environmental management system

8 Operation

- 8.1 Operational planning and control
- 8.2 Emergency preparedness and response



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